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This index covers all technical items - papers, correspondence, reviews, etc. that appeared in this periodical during 2000, and items from previous years that were commented upon or corrected in 2000. In the case of magazines, departments and other items may be also covered if they have been judged to have archival value.

The Author Index contains the primary entry for each item, listed under the first author's name. The primary entry includes the coauthors' names, the title of the paper or other item, and its location, specified by the publication abbreviation, year, month, and inclusive pagination. The Subject Index contains entries describing the item under all appropriate subject headings, plus the first author's name, the publication abbreviation, month, and year, and inclusive pages. Subject cross-references are included to assist in finding items of interest. Note that the item title is found only under the primary entry in the Author Index.

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Semiconductor devices; cf. Negative resistance devices; Resonant tunneling devices; Semiconductor diodes; Semiconductor lasers; Semiconductor switches; Transit time devices

Semiconductor device technology
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Semiconductor-insulator boundaries; cf. Silicon-on-insulator

Semiconductor-insulator-semiconductor devices; cf. p-i-n diodes

Semiconductor junctions; cf. p-n junctions; Semiconductor heterojunctions; Semiconductor quantum wells; Semiconductor quantum wires; Semiconductor superlattices

Semiconductor lasers
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Semiconductor lasers; cf. Quantum well lasers

Semiconductor materials
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$Si_{1-x}Ge_x$ strained layers in HBT, temp. depend. minority electron mobil. meas. *Rieh, J.-S.*, + , *T-ED Apr 00* 883-890
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Semiconductor materials; cf. Amorphous semiconductors; Elemental semiconductors; Heavily doped semiconductors; III-V semiconductors; II-VI semiconductors; Narrow band gap semiconductors; Porous semiconductors; Wide band gap semiconductors

Semiconductor-metal boundaries
AlGaAs/InGaAs PHEMT, metal-semicond. contact, interface states. *Dhar, S.*, + , *T-ED Feb 00* 282-287
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Semiconductor process modeling
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SiO_2 melted glass, viscoelastic material, proc. simul. *Pomp, A.*, + , *T-ED Oct 00* 1999-2007

Semiconductor quantum dots
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Semiconductor quantum wells
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Semiconductor quantum wires
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Semiconductors
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Semiconductors; cf. Amorphous semiconductors; Heavily doped semiconductors; Narrow band gap semiconductors; Porous semiconductors; Semiconductor quantum dots; Wide band gap semiconductors

Semiconductor storage
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Semiconductor storage; cf. Integrated memory circuits

Semiconductor superlattices
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Semiconductor switches
Al/SiO_2/Si tunnel switch diode, coupled drift-diffusion/quantum transmitting boundary method. *Daniel, E.S.*, + , *T-ED May 00* 1052-1060
Cr/p*a-Si:H/V analog memory switching device, AC charact. *Hu, J.*, + , *T-ED Sep 00* 1751-1757

Semiconductor switches; cf. Bipolar transistor switches; Field effect transistor switches; Power semiconductor switches

Semiconductor technology
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Semiconductor technology; cf. Isolation technology; Semiconductor device breakdown; Semiconductor device measurement; Semiconductor device metallization; Semiconductor doping; Semiconductor growth; Semiconductor process modeling; Wafer bonding

Semiconductor thin films
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Semiconductor thin films; cf. Semiconductor epitaxial layers

Semimetals; cf. Arsenic

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Sensors; cf. Humidity sensors; Image sensors; Infrared detectors; Magnetic sensors; Microsensors; Photodetectors; Ultraviolet detectors

Series (mathematics); cf. Volterra series

Short-circuit currents
Si solar cells, double sided minority carrier collection, simul. *Van Kerschaver, E., + , T-ED Apr 00* 711-717

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SOI MOSFETs, phys. noise modeling, excess Lorentzian component in low-freq. noise spectrum. *Workman, G.O., + , T-ED Jun 00* 1192-1201
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polysilicon IC resistors, compensation doped, long-term stabil., elec. props. *Rydberg, M., + , T-ED Feb 00* 417-426
polysilicon, MEMS fracture strength and fatigue determ. using thermal actuator. *Kapels, H., + , T-ED Jul 00* 1522-1528
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Si APD, neutron radiation effects, 1D device model. *Osborne, M.D., + , T-ED Mar 00* 529-536
Si APD, UV detector, dead space model. *Pauchard, A.R., + , T-ED Sep 00* 1685-1693
Si BJTs, highly nonuniform collector doping profiles, speed and breakdown perform. *Palestri, P., + , T-ED May 00* 1044-1051
Si cryogenic readout electronics, self-heating, semi-anal. approach. *De la Hidalga, F.J., + , T-ED May 00* 1098-1106
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Si HV TFT cct., TFEL/TFT stacked struct. display. *Unagami, T., T-ED Sep 00* 1694-1699
Si integrated bipolar transistors, HF distortion, compact modeling. *Schroter, M., + , T-ED Jul 00* 1529-1535
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simul. and optim. of metal-insulator-semiconductor inversion-layer silicon solar cells. *Kuhlmann, B., + , T-ED Nov 00* 2167-2178
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Si rapid low-cost surface passiv. technols. study. *Rohatgi, A., + , T-ED May 00* 987-993
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transduction principles of a-Si:H Schottky diode X-ray image sensors . *Nathan, A., + , T-ED Nov 00* 2093-2100
trench base-shielded bipolar transistor, struct. and charact. *Chen, Q., + , T-ED Aug 00* 1662-1666

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Silicon compounds
6H-SiC NMOS integrated inverters/ring oscillators, high temp. perform. *Schmid, U.*, + , *T-ED Apr 00* 687-691
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charactn. of inversion and accumulation layer electron transport in 4H and 6H-SiC MOSFETs on implanted P-type regions . *Vathulya, V.R.*, + , *T-ED Nov 00* 2018-2023
charactn. of SiC epitaxial channel MOSFETs. *Wagner, W.E., III*, + , *T-ED Nov 00* 2214-2220
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PMOSFET, ultrathin Si_3N_4/SiO_2 stacked gate dielec., reliab. *Wu, Y.*, + , *T-ED Jul 00* 1361-1369
self-heating effects in silicon carbide MESFETs . *Royet, A.S.*, + , *T-ED Nov 00* 2221-2227
SiC, high-field electron transport. *Khan, I.A.*, + , *T-ED Feb 00* 269-273
SiC MIS capacitors with ONO gate dielec., high-temp. charactn. *Wang, X.W.*, + , *T-ED Feb 00* 458-463
SiO_2, band-struct. calcs. by means of HF and dens.-functional techs. *Gnani, E.*, + , *T-ED Oct 00* 1795-1803
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SiO_2 of MOS capacitors, high-field current impulse stressing, latent damage study. *Wai-Kim Chim*, + , *T-ED Feb 00* 473-481
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SiO_2 thermal film dielec. breakdown field degrad., voids in Si wafer, simul. *Satoh, Y.*, + , *T-ED Feb 00* 398-403
SiO_2, ultrathin, reliab. under combined substr. hot-electron/const. volt. tunneling stress. *Vogel, E.M.*, + , *T-ED Jun 00* 1183-1191
Si rapid low-cost surface passiv. technols. study. *Rohatgi, A.*, + , *T-ED May 00* 987-993
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$Si_{0.97}C_{0.03}$/Si MODFET, electron transport and device perform., Monte Carlo study. *Dollfus, P.*, + , *T-ED Jun 00* 1247-1250
Si_3N_4 ultrathin film, microwave-excitation HDP nitridation. *Sekine, K.*, + , *T-ED Jul 00* 1370-1374
Silicon-on-insulator
dual body SOI struct. for mixed analog-digital mode cct. *Hyeokjae Lee*, + , *T-ED Aug 00* 1617-1623
dyn.-threshold SOI device, JFET embedded source., merged body-bias-control, cct. simulat. *Horiuchi, M.*, *T-ED Aug 00* 1593-1598
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FinFET, self-aligned double-gate MOSFET scalable to 20 nm . *Hisamoto, D.*, + , *T-ED Dec 00* 2320-2325
floating-body SOI MOSFET, phys. thermal noise model. *Wei Jin*, + , *T-ED Apr 00* 768-773
fully-depleted SOI MOSFET, generation/recomb. lifetime meas., steady state drain current. *Zhi-Yuan Cheng*, + , *T-ED Jan 00* 97-102
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lateral bipolar transistor, 67 GHz f_{max}, thin-film SOI, RF analog appls. *Nii, H.*, + , *T-ED Jul 00* 1536-1541
MOS devices, channel engng., carrier vel. overshoot, stat. perform. flucts. *Mizuno, T.*, *T-ED Apr 00* 756-761
MOSFETs, phys. noise modeling, excess Lorentzian component in low-freq. noise spectrum. *Workman, G.O.*, + , *T-ED Jun 00* 1192-1201
MOSFET, V_T flucts., impurity posn. distrib. *Yasuda, Y.*, + , *T-ED Oct 00* 1838-1842
MOSFET with nonuniform doping profile, light depend. *Abraham, G.K.*, + , *T-ED Jul 00* 1469-1471
narrow-width SOI MOSFETs with MESA isolation, charactn. *Wang, H.*, + , *T-ED Mar 00* 593-600
NMOSFET photodetector, floating gate/body tied device, SOI substr. *Weiquan Zhang*, + , *T-ED Jul 00* 1375-1384
pseudo-MOS transistor, elec. param. extraction. *Cristoloveanu, S.*, + , *T-ED May 00* 1018-1027
semicond. thickness and back-gate voltage effects on gate tunnel current in MOS/SOI syst. with ultrathin oxide. *Majkusiak, B.*, + , *T-ED Dec 00* 2347-2351
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surface implanted SOI RESURF LDMOS, breakdown voltage model. *Sang-Koo Chung*, *T-ED May 00* 1006-1009
thin-film SOI nMOSFET, STI, BOX thickness, hot-carrier degrad. *Jong-Wook Lee*, + , *T-ED May 00* 1013-1017
ultrathin SOI n-MOSFETs, short-channel effects, highly suppressed. *Suzuki, E.*, + , *T-ED Feb 00* 354-359
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SIMOX
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Simulation
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multidimensional semicond. laser simulator for edge-emitters. *Witzigmann, B.*, + , *T-ED Oct 00* 1926-1934
simul. and optim. of metal-insulator-semiconductor inversion-layer silicon solar cells. *Kuhlmann, B.*, + , *T-ED Nov 00* 2167-2178
sub-0.1 μm Schottky barrier MOSFET simul., coupled quantum injection/Monte Carlo tech. *Winstead, B.*, + , *T-ED Jun 00* 1241-1246
Simulation; cf. Circuit simulation; Digital simulation
Single electron devices
Coulomb blockade memory using integrated single-electron transistor/metal-oxide-semiconductor transistor gain cells. *Durrani, Z.A.K.*, + , *T-ED Dec 00* 2334-2339
Single electron transistors
GaAs/AlGaAs single-electron devices, 3D simulator, lin.-response approach. *Scholze, A.*, + , *T-ED Oct 00* 1811-1818
Si twin SET struct., IC oriented, pass-transistor type logic and CMOS-type logic integrat. *Ono, Y.*, + , *T-ED Jan 00* 147-153
solid-state devices, cct./device modeling at the quantum level, nanometer technol. *Zhiping Yu*, + , *T-ED Oct 00* 1819-1825
Slow wave structures
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helix slow wave struct. TWTs, long term gain growth. *Goebel, D.M.*, *T-ED Jun 00* 1286-1292
Soft magnetic materials; cf. Permalloy
Solar cells
photogeneration and carrier recombination in graded gap Cu(In, Ga)Se_2 solar cells. *Dullweber, T.*, + , *T-ED Dec 00* 2249-2254
poly-Si p-n jn. solar cells made in fine-grained Si layers, behavior study. *Beaucarne, G.*, + , *T-ED May 00* 1118-1120
simul. and optim. of metal-insulator-semiconductor inversion-layer silicon solar cells. *Kuhlmann, B.*, + , *T-ED Nov 00* 2167-2178
Si rapid low-cost surface passiv. technols. study. *Rohatgi, A.*, + , *T-ED May 00* 987-993
Si solar cells, double sided minority carrier collection, simul. *Van Kerschaver, E.*, + , *T-ED Apr 00* 711-717
Solar energy conversion; cf. Solar cells
Solid lasers; cf. Semiconductor lasers
Solids; cf. Amorphous state
Solid-State Device Research Conference, 1999 European
selected expanded papers (special section). *T-ED Jul 00* 1472-1541
Solid-state phase transformations
TiS_2 metallization, C49-C54 phase transform. *DiGregorio, J.F.*, + , *T-ED Feb 00* 313-317
Solid-state rectifiers
GaN Schottky rectifiers, HV mesa & planar, charactn. *Dang, G.T.*, + , *T-ED Apr 00* 692-696
unified device simul. of Schottky and ohmic contacts. *Matsuzawa, K.*, + , *T-ED Jan 00* 103-108
Solid structure; cf. Crystal defects
Space charge
helical TWT transverse RF field forces, computation. *Kory, C.L.*, + , *T-ED Jan 00* 253-256
HEMT, uniformly & δ doped, donor layer electrons, unified phys. model. *Karmalkar, S.*, + , *T-ED Apr 00* 667-676
MOS devices, freq. domain lifetime charactn. *Schroder, D.K.*, + , *T-ED Aug 00* 1653-1661
S-parameters
InGaP/GaAs HBTs, small-sig. param. extraction, equiv. cct. elements. *Sotoodeh, M.*, + , *T-ED Jun 00* 1139-1151
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Special issues and sections
1999 European Solid-State Device Research Conference, selected expanded papers (special section). *T-ED Jul 00* 1472-1541
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Spectra; cf. Fourier transform spectra; Luminescence; Raman spectra
Spectral line shift; cf. Red shift
Spectrometers; cf. Interference spectrometers; Visible spectrometers
Spectroscopy; cf. Deep level transient spectroscopy; Fourier transform spectroscopy; Infrared spectroscopy
SPICE
CMOS VLSI cct. design, on-chip interconnect crosstalk model and expt. verification. *Yungseon Eo, + , T-ED Jan 00* 129-140
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GaAs ion-implanted MESFETs, transient SPICE model for digitally modulated RF charact. *Shirokov, M.S., + , T-ED Aug 00* 1680-1681
SiGe HBTs for precision analog cct., bias and temp. charact., Ge grading effects. *Salmon, S.L., + , T-ED Feb 00* 292-298
ZnS:Mn ACTFEL device modeling via SPICE F-N diode. *Bender, J.P., + , T-ED May 00* 1113-1115
Spontaneous emission
semicond. QW lasers, simulator. *Alam, M.A., + , T-ED Oct 00* 1917-1925
Sputtered coatings
$BaTa_2O_6$ sputtered film, leakage I-V charact., interfacial barrier height. *Yun-Hi Lee, + , T-ED Jan 00* 71-76
Si:H polysilicon TFT, laser processed, sputtered amorph. thin films. *Giust, G.K., + , T-ED Jan 00* 207-213
Sputter etching
GaAs/AlGaAs thin-film surface-textured LEDs by optim. of natural lithog. *Windisch, R., + , T-ED Jul 00* 1492-1498
GaN Schottky diode, dry etch damage. *Cao, X.A., + , T-ED Jul 00* 1320-1324
MOSFET, ultrathin gate oxide, plasma-induced charging damage. *Chi-Chun Chen, + , T-ED Jul 00* 1355-1360
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Stability
polysilicon IC resistors, compensation doped, long-term stabil., elec. props. *Rydberg, M., + , T-ED Feb 00* 417-426
SiC MIS capacitors with ONO gate dielec., high-temp. charact. *Wang, X.W., + , T-ED Feb 00* 458-463
Stability; cf. Thermal stability
Static electrification; cf. Surface charging
Static induction transistors
Si microwave recessed gate type SIT, high gain and HV operation. *Nishizawa, J., + , T-ED Feb 00* 482-487
Statistical analysis
APD, bandwidth stats. computation. *Hayat, M.M., + , T-ED Jun 00* 1273-1279
GaAs HBTs, current induced degrad., phys. model. *Adlerstein, M.G., + , T-ED Feb 00* 434-439
MOS devices, channel engng., carrier vel. overshoot, stat. perform. fluct. *Mizuno, T., T-ED Apr 00* 756-761
polysilicon MOSFET gate enhancement, random dopant induced threshold voltage fluct. *Asenov, A., + , T-ED Apr 00* 805-812
SiO_2, dielec. breakdown mechanism studied by post-breakdown resist. stats. *Satake, H., + , T-ED Apr 00* 741-745
Statistical analysis; cf. Covariance analysis
Statistics; cf. Monte Carlo methods; Statistical analysis
Stimulated emission
semicond. QW lasers, simulator. *Alam, M.A., + , T-ED Oct 00* 1917-1925
Stochastic processes
thin films, reliab., percolation model. *Pennetta, C., + , T-ED Oct 00* 1986-1991
Stress effects
mech. stress related instabilities in silicon under metal coverage . *Manic, D., + , T-ED Dec 00* 2429-2437
Stress effects; cf. Piezoresistance
Strip lines; cf. Microstrip lines
Strontium compounds
$SrBi_2Ta_2O_9$-gate FET based ferroelec. neuron ICs using CMOS Schmitt-trigger oscillators. *Yoon, S.-M., + , T-ED Aug 00* 1630-1635
Submillimeter wave circuits; cf. Submillimeter wave integrated circuits
Submillimeter wave devices; cf. Submillimeter wave diodes; Submillimeter wave mixers
Submillimeter wave diodes
bipolar injection transit time device, small-sig. anal. *Chen, L., + , T-ED Jul 00* 1310-1314
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GaAs integrated Schottky mixers, fab. by spin-on-dielec. wafer bonding. *Marazita, S.M., + , T-ED Jun 00* 1152-1157
Submillimeter wave integrated circuits
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GaAs integrated Schottky mixers, fab. by spin-on-dielec. wafer bonding. *Marazita, S.M., + , T-ED Jun 00* 1152-1157
Submillimeter wave mixers
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GaAs integrated Schottky mixers, fab. by spin-on-dielec. wafer bonding. *Marazita, S.M., + , T-ED Jun 00* 1152-1157
Substrates
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HgCdTe IR photodiodes, CdTe/CdZnTe substr. resist. impact on perform. degrad. *Dhar, V., + , T-ED May 00* 978-986
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Superlattices; cf. Semiconductor superlattices
Surface charging
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spacers in FED, anal. of surface charging. *Choi, Y.S., + , T-ED Aug 00* 1673-1677
Surface diffusion
Teflon amorph. fluoropolymer film, VUV radiation effect on gap fill props. *Parihar, V., + , T-ED Jul 00* 1463-1465
Surface discharges
color plasma displays, discharge generation proc. obs., ultra-high-speed electronic camera. *Zhang, S., + , T-ED Feb 00* 333-339
full-color surface-discharge PDP, panel struct. develop. *Shinoda, T., + , T-ED Jan 00* 77-81
Surface phenomena; cf. Surface charging; Surface diffusion; Surface discharges; Surface potential; Surface recombination; Surface scattering; Surface states
Surface potential
fully-depleted SOI MOSFETs, high-dose SIMOX wafers, static back-gate transconduct. charact. *Ushiki, T., + , T-ED Feb 00* 360-366
MOS struct., triangular pot. well approx. *Yutao Ma, + , T-ED Sep 00* 1764-1767
SOI MOSFET with nonuniform doping profile, light depend. *Abraham, G.K., + , T-ED Jul 00* 1469-1471
Surface recombination
Si solar cells, double sided minority carrier collection, simul. *Van Kerschaver, E., + , T-ED Apr 00* 711-717
Surface scattering
Si inversion layers, surface roughness-limited carrier mobility. *Pirovano, A., + , T-ED Apr 00* 718-724
Surface states
GaAs MESFETs, substr.-trap effects on turn-on charact., 2D anal. *Horio, K., + , T-ED Mar 00* 617-624
n-AlGaAs/GaAs power HEMTs, gate leakage current suppression. *Nagayama, A., + , T-ED Mar 00* 517-522
num. anal. of surface-state effects on kink phenomena of GaAs MESFETs. *Horio, K., + , T-ED Dec 00* 2270-2276
Surface structure; cf. Surface topography
Surface texture
GaAs/AlGaAs thin-film surface-textured LEDs by optim. of natural lithog. *Windisch, R., + , T-ED Jul 00* 1492-1498
Surface topography
a-Si:H TFT, fab. on plasma treated SiN_x, field-effect mobility. *Byung Cheon Lim, + , T-ED Feb 00* 367-371
polysilicon oxides combining N_2O nitridation and CMP procs., leakage current, dielec. breakdown. *Tan Fu Lei, + , T-ED Aug 00* 1545-1552
Si inversion layers, surface roughness-limited carrier mobility. *Pirovano, A., + , T-ED Apr 00* 718-724
Surface treatment
a-Si:H TFT, fab. on plasma treated SiN_x, field-effect mobility. *Byung Cheon Lim, + , T-ED Feb 00* 367-371
$BaTa_2O_6$ sputtered film, leakage I-V charact., interfacial barrier height. *Yun-Hi Lee, + , T-ED Jan 00* 71-76
III-V HBT fab., appl. of Si-based proc. simul. tools. *Fields, C.H., + , T-ED Oct 00* 1973-1979
Surface treatment; cf. Etching
Switches; cf. Semiconductor switches
Switching circuits; cf. Trigger circuits
Symmetry; cf. Crystal symmetry

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CMOS ULSI cct. appls., interconnect params., time delay, on-chip charact. *Hi-Deok Lee, + , T-ED May 00* 1073-1079

Technology CAD (electronics)
alternative gate dielec. stack engng., at. scale modeling. *Kawamoto, A.*, + , *T-ED Oct 00* 1787-1794
CMOS deep-submicron ULSI technol., threshold voltage formulation, 2D num. simul. *Xing Zhou*, + , *T-ED Jan 00* 214-221
III-V HBT fab., appl. of Si-based proc. simul. tools. *Fields, C.H.*, + , *T-ED Oct 00* 1973-1979
quantum effect model for device simul. *Shigyo, N.*, + , *T-ED May 00* 1010-1012
Telecommunication equipment; cf. Radio equipment
Temperature measurement
HBTs under high self-heating bias conditions, jn. temp. direct extraction tech. *Marsh, S.P., T-ED Feb 00* 288-291
Testing; cf. Logic testing
Texture; cf. Surface texture
Thermal analysis
a-Si:H TFTs, model for self-heating and kink effects. *Ling Wang*, + , *T-ED Feb 00* 387-397
Thermal conductivity
Si cryogenic readout electronics, self-heating, semi-anal. approach. *De la Hidalga, F.J.*, + , *T-ED May 00* 1098-1106
Thermal noise
CMOS image sens., sig. readout circuitry temporal noise, anal. and reduction. *Degerli, Y.*, + , *T-ED May 00* 949-962
floating-body SOI MOSFET, phys. thermal noise model. *Wei Jin*, + , *T-ED Apr 00* 768-773
Thermal properties; cf. Thermal conductivity; Thermal stability
Thermal resistance
a-Si:H TFTs, model for self-heating and kink effects. *Ling Wang*, + , *T-ED Feb 00* 387-397
Si cryogenic readout electronics, self-heating, semi-anal. approach. *De la Hidalga, F.J.*, + , *T-ED May 00* 1098-1106
Thermal stability
capacitive humidity sens., high-speed, on-chip thermal reset. *Kang, U.*, + , *T-ED Apr 00* 702-710
$CoSi_2$ film for CMOS salicide. *Ohguro, T.*, + , *T-ED Nov 00* 2208-2213
Thermal variables measurement; cf. Temperature measurement
Thermodynamic properties; cf. Equations of state
Thermodynamics
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Thermophotovoltaic cells
TPV cells, radiative transfer over small dists. from black body. *Pan, J.L.*, + , *T-ED Jan 00* 241-249
Thickness measurement
MOS capacitor, ultrathin gate oxide, thickness meas. *Ahmed, K.*, + , *T-ED Jul 00* 1349-1354
Thin film capacitors
degradation and breakdown of thin SiO_2 films under static and dyn. tests using two-step stress procedure . *Rodriguez, R.*, + , *T-ED Nov 00* 2138-2145
Thin film devices
TFEL devices, interface roughness, elec. model. *Neyts, K.*, + , *T-ED Feb 00* 318-325
Thin film devices; cf. Thin film capacitors; Thin film resistors; Thin film transistors
Thin film resistors
polysilicon IC resistors, compensation doped, long-term stabil., elec. props. *Rydberg, M.*, + , *T-ED Feb 00* 417-426
Thin films; cf. Dielectric thin films; Epitaxial layers; Insulating thin films; Metallic thin films; Semiconductor thin films
Thin film transistors
a-Si:H TFT, fab. on plasma treated SiN_x, field-effect mobility. *Byung Cheon Lim*, + , *T-ED Feb 00* 367-371
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